DOCUMENT RESUME

ED 151 810 CS 203 992

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TITLE Self and Social Interest in News Events and the Knowledge Gap Hypothesis.
PUB DATE Aug 77
NOTE 31p.; Paper presented at the Annual Meeting of the Association for Education in Journalism (60th, Madison, Wisconsin, August 1977)

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Adults; *Current Events; *Educational Background; Information Seeking; Information Theory; Information Utilization; *Interests; *Knowledge Level; News Media; Prediction; *Predictor Variables; *Social Attitudes
IDENTIFIERS *Knowledge Gap Hypothesis

ABSTRACT

This study attempted to clarify the interplay of self/social interest and education level as factors in the "knowledge gap" hypothesis, which states that knowledge of heavily publicized topics is accrued faster over time by better educated persons. In each of two telephone surveys in the Lansing, Michigan, area, the same 253 adults were measured for their knowledge of two news events of varying interest (the National Football League strike and the Nixon impeachment developments). The respondents also provided data about their self-interest in each news event (how it influenced their lives), their social interest in the news event (whether they talked about it with anyone), and their level of education. When respondents' interest and education levels were correlated to knowledge about the news events, social interest in the events emerged as the best single predictor of knowledge, and the multiple correlation of education/interest to knowledge was only slightly better than social interest alone. The correlations between interest and knowledge across time suggest a causal relationship between them, but more research is needed (using news events of equivalent as well as varying duration in the mass media) to ascertain the validity of these tentative observations. (RL)

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Self and Social Interest in News Events and the Knowledge Gap Hypothesis

by

B.K.L. Genova and Bradley S. Greenberg

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

Some time ago, Jacques Ellul remarked that "European analysts have found that the average reader retains only about ten percent of the news... this is probably fortunate; if he remembered it all, he would go mad[1]. Exaggeration aside, European analysts are not unique in noticing that the audience often neglects mass media attempts to inform them. More directly, recent studies have focused on differential information levels among various population strata. This has been most clearly characterized as the "knowledge gap" hypothesis and most succinctly stated by Tichenor et al.:

> "As the infusion of mass media information into a social system increases, segments of the population with higher socio-economic status tend to acquire this information at a faster rate than lower status segments, so that the gap in knowledge between them tends to increase rather than decrease"[2].

Tichenor focused attention on findings which show that various social strata do not share the same propensity to partake in the "information explosion".

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That initial exploration of the knowledge gap phenomenon used education as the main socio-economic locator variable in detecting information level discrepancies and dealt exclusively with the print media. The authors concluded that knowledge of heavily publicized topics is accrued faster over time by better educated persons. Indeed, education is an important indicator of the trained capacities of audience members to respond to incoming media information.[3]

Another set of knowledge gap-like results can be derived from the study of the Sesame Street television program for children during its first and second years.[4] Disadvantaged frequent viewers gained as much as advantaged frequent viewers. On the other hand, advantaged infrequent viewers gained more than infrequent viewers among the disadvantaged. Thus, the advantaged children seemed to have alternative avenues of gaining knowledge, e.g., reading and discussions at home, spare time activities conducive to learning. More recently, Donohue, et al. studied the dynamic relationship between community structure, the pattern of media coverage, the nature of the publicized issues and emerging knowledge, by focusing on local crisis situations.[5] An important outcome of this study was the finding that equalization of knowledge was more likely to occur in a small homogeneous community with regard to local issues which arouse basic social concerns.

These findings demonstrate a need to further clarify the interplay of factors deemed relevant to the study and explanation of the knowledge gap phenomenon. While education or socio-economic status are helpful with respect to print media, they have much less power in predicting the use of broadcast media.[6] Although print media use delineates information discrepancies among educationally unequal segments, the educated viewer is nearly as likely to

turn on entertainment television programs and shun "heavy" informational content, as are the less educated viewers.[7] Alternative variables such as extent of social interaction,[8] cognitive needs for information,[9] and available leisure time[10] have been suggested as indicators of media use. Also, evidence abounds that mere exposure to mass media does not necessarily bring about more news awareness. Johnson found that both heavy and light television viewers knew very little about people in the news.[11] A number of parallel studies indicate that availability of information may enhance exposure, but does not ensure information gain.[12]

Throughout these studies, there is the suggestion that the interests of the public may be a central factor in what is chosen to be learned or remembered. Implicit is the notion that interests may have something to do with education or socio-economic status, but nowhere is that issue directly assessed, or the demographic locators separated from the interest predispositions. Thus, interests may guide information-seekers in the mass media; given exposure, presence or absence of interest may intervene with the kind of attention given different content areas and components. For example, a study[13] of audience reactions to political commercials on television during two 1970 campaigns for governor found that: (a) availability of political ads on television was unrelated to the attention given to them, with an average correlation of -.02; (b) interest in the campaign contributed considerably to attention patterns; and (c) demographic locators such as age, sex, education or occupation were only slightly related to attention given the television spots. Another study found interest positively and strongly related to knowledge about a sports event.[14]

Two studies, carried out by Johnson in Kentucky and Bishop in Peru,[15]

sought to isolate factors playing a role in political knowledge acquisition. Both concur on the role played by interest predictors, suggesting that the model moves from interest through media use to knowledge in the political realm. The correlation of political interest with political knowledge was of the same magnitude as that of media use with political knowledge in each study. This brings us to the central argument that interest is a key component in assessing news information gain, and also should serve to enhance prior understanding and explanation of the knowledge gap phenomenon.

Education does develop cognitive skills which facilitate handling of mass media information and is likely to widen an individual's overall scope of interests[16]. At the same time, this does not require an assumption of interest homogeneity among similarly-educated audience members. Here, it is suggested that an interest-based model will allow a more sensitive examination of information gain processes and help trace the patterns of knowledge differences among mass media audience. Figure 1 illustrates these concepts.

Figure 1 about here

News information items are seen as distributions varying in their perceived interest for the receiver, and that information gain is a function of interest. If any message were publicized for an indefinite time, theoretical expectations are that the knowledge gap regarding the specific information carried by this message will eventually close. Actually this can rarely be the case, given the finite nature of mass media publicity on any given topic. So how much the resulting knowledge gap closes depends partly on whether media publicity is maintained or eliminated at a point in time when only the more interested persons have gained that knowledge. Prior knowledge

level is viewed as an indication of prior interest. The positive relationship between prior knowledge and information gain has been demonstrated.[17]

Little agreement exists among explications of interest, salience, importance or relevance of events. Adams and Mullen based their distinction on potential social utility, while Greenberg, et al. found interest based more so on personal utility.[18] Hanneman and Greenberg used composite social, attitudinal and interest measures of relevance (importance) and salience (interest) to predict differential information processing.[19] McCombs speaks of relevance in terms of discussion of event and interest interchangeably.[20]

From these disparate approaches, two components or functions of interest emerge for specific examination in this study. One is the perceived usefulness of information for one's self, and the second is the perceived information utility to the individual's social milieu. To the extent that an information item is considered by a person to have one or both characteristics, that individual is more likely to attend to the information item. This proposition is rooted in a functional approach which emphasizes information utility from the receiver's perspective.

Self-interest is pertinent to information areas which are scanned because they are perceived to have some functional utility in connection with an individual's daily coping behaviors. Social interest relates more so to the kinds of interpersonal networks that are important to an individual. In terms of information seeking, but not information gain, Chaffee and McLeod have reported that social contacts account better for that behavior than do individual differences alone.[21] Self-interests are more likely to be determined by personal exigencies, "what is happening to me"; social interests may well be influenced by the agenda setting impact of the mass media's choices in news event coverage. The former can be argued to be of primacy in

orienting what an individual chooses to learn. Thus, a relatively permanent individual sphere of activity and stable social networks should encourage the persistence of certain criteria in selecting information; changes in the spheres of activity and/or social milieu should result in new perceptions of information utility, and the beginnings of re-direction of interests.

Within this framework, self and social interests are anticipated to be more predictive of knowledge acquired from media content than education. These specific hypotheses follow from this rationale.

H_1: Interest will be a stronger correlate of composite public affairs knowledge than education; the best prediction will accrue from the joint effect of both variables.

H_{1a}: Self interest will be a better predictor of knowledge than social interest.

H_2: At any point in time, more interested audience members will display a higher level of knowledge than those less interested in a publicized event.

H_3: As the infusion of new mass media information into a social system continues, those with a higher level of interest will acquire new information faster than those less interested, thereby widening the knowledge gap between them.

H_4: As information dissemination on a topic continues over an extended time period, the knowledge gap between those more and less interested will begin to decrease.

METHODOLOGY

This study included a panel survey of adults at two points in time, 10 days apart. A structured interview was used to measure separate components of interest and knowledge about two well-publicized events in August, 1974.

Sample

The survey site was the greater Lansing, Michigan area, covering 15 communities with an estimated population of 115,482, excluding Lansing itself. The area telephone directory was used as the sampling frame to draw a systematic probability sample of 400 numbers. Eligible respondents were adults aged 18-80. Respondent selection within each household followed the procedure recommended by Troldahl and Carter[22]. In all, 253 usable interviews (63 percent) were completed during the first wave, with 28 percent refusals, disconnects and not-at-homes, 2 percent not eligible and 7 percent who said they would not be re-interviewed. The second wave obtained 96 percent of the first wave respondents. Comparisons were made between the sample and 1970 census characteristics. Comparable distributions were obtained for sex and age, with some discrepancy for education and occupation. The sample was 48 percent male, compared to 46 percent in the census. Both the sample and the census contained 59 percent aged 18-30, and 14 percent in their 40's. The sample included 44 percent with high school education, while the census had 64 percent, with the sample including substantially more in the college-educated sub-group. The sample included 32 percent in labor and service jobs, with 36 percent in the census; the sample had a higher proportion of professionals (31 percent vs. 14 percent) and a lower proportion of students (7 percent vs. 23 percent) than did the census, in large part because the data

collection occurred during the summer, when far fewer students reside in the area.

News events

The questionnaire was developed to tap, at two points in time, respondent interest and knowledge about two different events publicized in the media--the ongoing National Football League strike and the Nixon impeachment developments. These two events were selected for several reasons. First, the need was for at least two news topics contrasting in the likely interest they would hold for different audience segments. Second, the need was for news topics having different durations of display in the mass media. The football strike was a relatively short-lived event, while the impeachment events had a longer history. Third, both events had to remain in the news throughout the period of study.

Variables

The key independent variables were self-interest and social interest. To tap self-interest, respondents were asked four questions about the event's influence on their own life, their job or that of someone close to them, the cost of living, and their general satisfaction with things around them. To tap social interest, respondents were asked if they had discussed the event with friends, relatives, people at work, or anybody else. In each case, yes and no answers were obtained. Questionnaire items were assigned to either self- or social interest on the basis of results from a common factor analysis with a quartermax rotation. Factor scores for all the extracted factors were summed to form the indices of interest[23]. Composite interest was an index obtained by summing the single index scores of self- and social interest.

The dependent variables were factual and structural knowledge about each news event. In terms of the dependent variable, knowledge, we adopted Atkin and Greenberg's content measure which differentiated between factual and structural knowledge[24]. Factual knowledge refers to the respondent's knowledge of specific items, names, dates, places, facts and figures, related to specific news occurrences. Structural knowledge is taken as the respondent's understanding of the relationships manifested in an event, how or why it took place, or the event's place in the broader framework of related phenomena. Three knowledge items were constructed for each knowledge component on the basis of a pretest. Factual knowledge items asked for the names of quarterbacks crossing picketlines, amount of presidential pension, etc. Structural knowledge items asked about Ed Garvey's role in the NFL strike, the implications of presidential censure, etc. Correct responses were scored as one, other responses as zero. Two knowledge items of six remained constant across both interviews. Four items varied, i.e., "current" questions during wave two replaced "old" items from wave one. A single index was created for each dependent variable by summing standardized response scores across knowledge items at each time period.

Education was measured by obtaining the last grade in school completed by the respondents. These data were collapsed into six categories: Less than sixth grade, seventh grade through some high school, high school completion, some college, college completion and graduate work.

When all indices had been constructed, and prior to analyses designed to test the study hypotheses, the overall relationship between interest and education was examined. Should these be strongly inter-related, then the logic of this study would have been demonstrated to be sufficiently faulty to

preclude much analytic work. At time one, the composite measure of interest in the NFL strike was correlated .14 with education, and the parallel measure of interest in the impeachment developments was correlated .23 with education. At time two, the same measures of interest were correlated .08 and .18 respectively with education. The relatively low magnitude of the correlations between education and interest permit direct comparisons of their roles in explaining potential knowledge gap differences.

One further methodological point of importance before going to the results is a description of public interest in the chosen news events at the first data-gathering. There was little interest in the NFL strike, either in terms of self- or social interest measures. About 80 percent of the sample fell into low interest categories on both measures at time one. By contrast, about 60 percent of the sample was in high interest categories for impeachment during the first interview. The chosen events were differentiated by interest levels, as anticipated.

FINDINGS

The first hypothesis was:

H_1: Interest will be a stronger correlate of composite public affairs knowledge than education; the best prediction will accrue from the joint effect of both variables.

The results obtained for both events at Time One and Time Two are in Table 1. Consistently, for both events at both time periods, the correlation of interest with knowledge exceeded that of education with knowledge. The interest-knowledge correlations ranged from .32 to .39; the education-knowledge correlates ranged from .23 to .29. Thus, there was no overlap in the ranges.

Further, as anticipated, the multiple correlation of education and interest exceeded each set of individual correlations. The range of multiple correlations was .40 to .44. This further confirms the fact that education and interest have some overlap, but that they also contain distinctive components.

TABLE 1 ABOUT HERE

This basic analysis was done with the composite measure of knowledge. The analysis was repeated with the conceptually and operationally distinct components of factual and structural knowledge. The results are in Table 2. A most interesting contrast emerges as to the locus of the interest-knowledge and education-knowledge relationships.

Table 2a indicates that for factual knowledge, there are small and inconsistent differences in the correlations between either education or interest with knowledge. Twice education yields a higher correlation, and twice interest does, but none are of much magnitude. Thus, for discrete bits of information about such news events as these, education and interest are

functionally equivalent as predictors.

TABLE 2 ABOUT HERE

Table 2b demonstrates that the learning of structural knowledge is far more susceptible to interest differences than to education differences. The range of education correlations is from .19 to .24, while the range of interest correlations is from .34 to .40, all statistically significant differences. Furthermore, the multiple correlations add minimally--from .03 to .05--to the correlations obtained from the variable of interest alone. Thus, for learning information which requires an understanding of processual elements about a news event, interest is a better predictor than education, and education adds virtually nothing to the prediction obtained from interest alone.

The follow-up interest hypothesis was:

H_{1a}: Self-interest will be a better predictor of knowledge than social interest.

Relevant data are in Table 3. The results are surprising, but further clarify the findings of Tables 1 and 2. First, self-interest is not a better predictor of knowledge; it is a worse predictor. In all instances, it yields lower correlations with both factual and structural knowledge, than does social interest in the news events. Further, it yields generally lower correlations with both knowledge components than does education, more so for the NFL event than for the Impeachment happenings.

TABLE 3 ABOUT HERE

Whereas a tentative conclusion from Table 2 suggested that factual

knowledge was equally predictable from the composite interest index and education, Table 3 shows that social interest, i.e., talking with people about the event, is consistently a stronger predictor about both factual and structural knowledge, for the NFL strike event. Social interest is also a stronger predictor of both kinds of knowledges for the Impeachment event at Time Two, and for structural knowledge at Time One.

As judged by the respondents, the impact of these events on their personal well-being was not a determinant of how much they learned. Their ability to use the news in social situations was.

The second hypothesis was:

H_2: At any point in time, more interested audience members will display a higher level of knowledge than those less interested in a publicized news event.

Table 4 contains the findings relevant to this hypothesis. We examined whether the proposition was valid for two points in time. For each of four possible independent comparisons, those with more interest knew significantly more than those with less interest. This also establishes the existence of a significant knowledge gap. Hypothesis 2 was supported.

TABLE 4 ABOUT HERE

The third hypothesis was:

H_3: As the infusion of mass media information into a social system continues, those with a higher level of interest will acquire new information faster than those less interested, thereby widening the knowledge gap between them.

At Time 2, a series of four new information questions, two structural and two factual, was asked for each event. The analysis presented in Table 5a

includes those respondents who retained the same interest level as they had at Time One, which was two-thirds of each news event group. The standardized score means on the new information items are presented for each sub-group. These new information items reflected event developments after the first interview with this panel of respondents.

TABLE 5 ABOUT HERE

For each event, those with continuing interest in the event, learned significantly more of the new available information than those with continuing lack of interest. This hypothesized aspect of the model was supported.

Also examined were the data for old knowledge, or the items which remained constant during both waves. The analysis in Table 5b includes respondents who retained the same interest level throughout the study. The standardized score means on these repeated information items are presented for each sub-group. The same general pattern emerges; for both events, more interested respondents displayed a consistently higher level of knowledge. Also, the gain in knowledge is more pronounced between Time One and Time Two for the high interest respondents.

A similar finding emerged from sub-analyses of the switchers, regarding interest in the impeachment event. Interest-gainers between the two time waves knew significantly more at the second testing than interest-losers ($p < .05$). For NFL, the numbers who switched were too small for analysis.

The fourth hypothesis was:

H_4: As information dissemination on a topic continues over an extended time period, the knowledge gap between those more and less interested will begin to decrease.

This study design permits only a rough initial test of this hypothesis.

The impeachment proceedings had been operative for a much longer period than the NFL strike, and were of much higher interest both by interest component and by time period. Ideally, this hypothesis would have been tested for several events of equivalent social and self interest, and differing in duration of media coverage. This discrepancy attenuates any firm conclusions that might otherwise be possible.

Figure 2 presents evidence which bears on the hypothesis. The difference between the more and less interested at the second testing, for the impeachment news event, was negligibly smaller than the difference at Time One. The difference between the more and less interested at the second wave, for the NFL news, was substantially larger than it had been at the first testing. Clearly, the directional differences between the two events are supportive of this hypothesis. More clearly, additional time segments and more varied news events are necessary for an adequate examination of the hypothesis.

FIGURE 2 ABOUT HERE

DISCUSSION

The proposed interest-knowledge model appears to have a sound foundation in the present findings. At the same time, further conceptual and methodological refinements are needed.

The more interested segments of the public obtained incoming information faster and also knew more at each point in time than those less interested in a given news event. The resulting knowledge gap seemed tempered for the event of longer duration. Both education and interest were related to information gain; consistently, interest was the better predictor and tended to correlate more strongly with structural knowledge in particular. Social interest in the events emerged as the best predictor of knowledge over both self-interest and education.

Here, self-interest did not appear to be highly activated. Before rejecting that concept, further work should encompass other kinds of news events to determine whether certain issues in the media are more likely to engage the self-interest component. For example, economic, ethical or religious issues may touch off sentiments more responsive to individual perceptions of personal well-being.

Since social interest was dominant, it is important to understand better what it stands for. The least complicated interpretation emphasizes communicative facilitation between an individual and his social-affiliative groups. However, social conversations may vary in degree of involvement with different groups within one's social milieu. For example, sensitive topics are more likely to be discussed with close friends than with co-workers. Viewed this way, social interest may be even more useful when used to distinguish who is the focus of concern, and in relation to what themes of

social exchange. Future work may help differentiate the role of social exchanges with close and more distant members of the social circle. Perhaps a reconsideration of the present dichotomy between social and self-interest is desirable. What here has been termed social interest may largely be discussions in the broader social milieu. Topics primarily touched upon with intimates may reflect a component of self-interest.

The comparative predictive power of education and interest is also of note. The combined correlation of education and interest with knowledge did better than either one alone. Perhaps viewing the association between education and interest as a part-whole conceptual relationship could be helpful, where education is conceived of as contributing to an individual's entire configuration of news interests. In supplemental analyses, education was partialed out of the findings to see how much change in the interest-knowledge relationship would occur.

The interest-knowledge correlations changed very little. For NFL, at Time One, the correlation was reduced from .326 to .307; for Time Two, from .355 to .346; for Impeachment at Time One, from .341 to .301; for Time Two, from .391 to .362. Removing education does not markedly disturb the original interest-knowledge relationship. So for these two events, the part-whole notion is unnecessary. The correlations are consistently larger at Time Two. It is conceivable that this is a reflection of mutual effects, where interest and knowledge feed on each other, reciprocally reinforcing each other over time.

After testing the stated hypotheses, the cross-lagged correlational technique was used to examine the underlying causal flow from interest to knowledge. The Rozelle-Campbell baseline criterion was applied to assess

causal relationships between the two variables[25]. Since this analysis is revealing of mutual causation and sensitive to time lag equivalences, it became interesting for two reasons. First, there was a short time lag between waves in this study and second, because of the difference in media display duration for the two events. The test was expected to show differences in the way the main causal process would manifest itself for each event. Figure 3 demonstrates that this occurred.

FIGURE 3 ABOUT HERE

Figure 3 presents the general design for a two-variable, two-time panel study. The correlations between interest and knowledge across time are of key importance. To determine causality, these cross-lagged correlations (e and f) must be compared to a "no cause" baseline statistic which takes into account the synchronous associations (c and d) and the test-retest associations (a and b) that may spuriously produce sizable diagonal relationships. The baseline is computed by multiplying the arithmetic mean of the static correlations (c, d) with the geometric mean of the test-retest correlations (a, b). Conceptually, the baseline indicates what the magnitude of cross-lagged correlations (e, f) would be in the absence of causal processes. When the diagonals exceed the baseline, the associations meet the basic criteria for causality. The relative contribution of interest and knowledge to the relationship then can be inferred from the relative strength of e and f. If both diagonals exceed the baseline, the question of time equivalences must be considered. That is, if process f is slower than process e, the results will reflect this difference when the time lag between Time One and Time Two is relatively short, as in this study.

Figure 3 indicates that both diagonals exceed the baseline for both events, so that each association is functional and each variable appears to affect the other in a mutual interaction. In the case of NFL, an event of brief duration, the association between knowledge at Time One and interest at Time Two (e) is greater than the reverse association (f). For the impeachment event, the longer lasting event, the association between interest at Time One and knowledge at Time Two is greater. This suggests that the causal flow from interest to knowledge is the slower process. Thus, it may not have yet manifested itself in the case of NFL. Further work should compare news events of equivalent as well as varying duration in the mass media to ascertain the soundness of these tentative observations.

Table 1

Public Affairs Knowledge
by Interest and Education

	National Football League Strike (NFL)		Impeachment (IMP)	
	Composite Knowledge		Composite Knowledge	
	T_1	T_2	T_1	T_2
Interest	.32	.36	.35	.39
Education	.29	.23	.29	.26
Both Together	.40	.41	.41	.44

Table 2

Factual and Structural Knowledge
by Interest and Education

2a. Factual Knowledge

	NFL		Impeachment	
	T_1	T_2	T_1	T_2
Interest	.24	.24	.23	.28
Education	.32	.18	.26	.21
Both Together	.38	.29	.31	.33

2b. Structural Knowledge

	NFL		Impeachment	
	T_1	T_2	T_1	T_2
Interest	.34	.40	.36	.40
Education	.19	.24	.24	.24
Both Together	.37	.45	.39	.44

Table 3

Self- and Social Interest by
Factual and Structural Knowledge

	Time One				Time Two			
Knowledge	Interest			Education	Interest			Education
	Self		Social		Self		Social	
NFL								
Factual	.06	<	.43	> .32	.06	<	.31	> .18
Structural	.14	<	.43	> .19	.16	<	.46	> .24
IMP								
Factual	.13	<	.20	< .26	.17	<	.30	> .21
Structural	.21	<	.29	> .24	.29	<	.37	> .24

Table 4

Knowledge Gap by Interest
for Two News Events

Time One				
NFL Knowledge	mean	t	df	p
High Interest Group*	1.6467	7.34	251	<.001
Low Interest Group	-1.7400			
IMP Knowledge				
High Interest Group	0.9255	4.63	251	<.001
Low Interest Group	-0.9294			
Time Two				
NFL Knowledge				
High Interest Group	3.0771	6.56	241	<.001
Low Interest Group	-0.8575			
IMP Knowledge				
High Interest Group	0.8704	3.81	241	<.001
Low Interest Group	-0.8530			

* A median split of the overall interest was used to obtain the high-low interest groups for this analysis.

Table 5

5a. New Knowledge Gap by Interest in Two News Events at Time Two

NFL	n	mean	t	df	p
High Interest	76	1.9605	7.51	176	<.001
Low Interest	102	0.6667			
IMP					
High Interest	78	2.3205	3.32	154	<.001
Low Interest	78	1.6282			

5b. Old Knowledge Gap by Interest in Two News Events

Time One

NFL	n	mean	t	df	p
High Interest	76	.921	6.42	176	<.001
Low Interest	102	.274			
IMP					
High Interest	78	1.089	1.60	154	n.s.
Low Interest	78	.884			

Time Two

NFL					
High Interest	76	1.144	7.59	176	<.001
Low Interest	102	.323			
IMP					
High Interest	78	1.679	2.62	154	<.01
Low Interest	78	1.397			

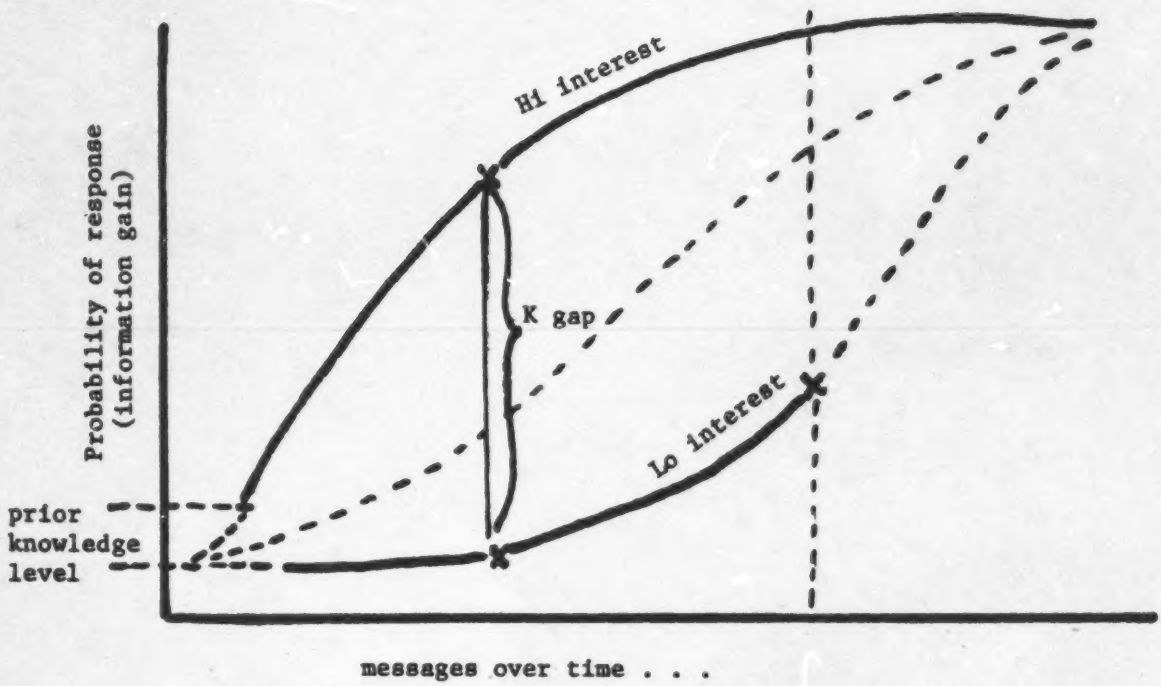


Figure 1

Information Gain Response Functions

Figure 2

Mean Knowledge Comparisons Over Time

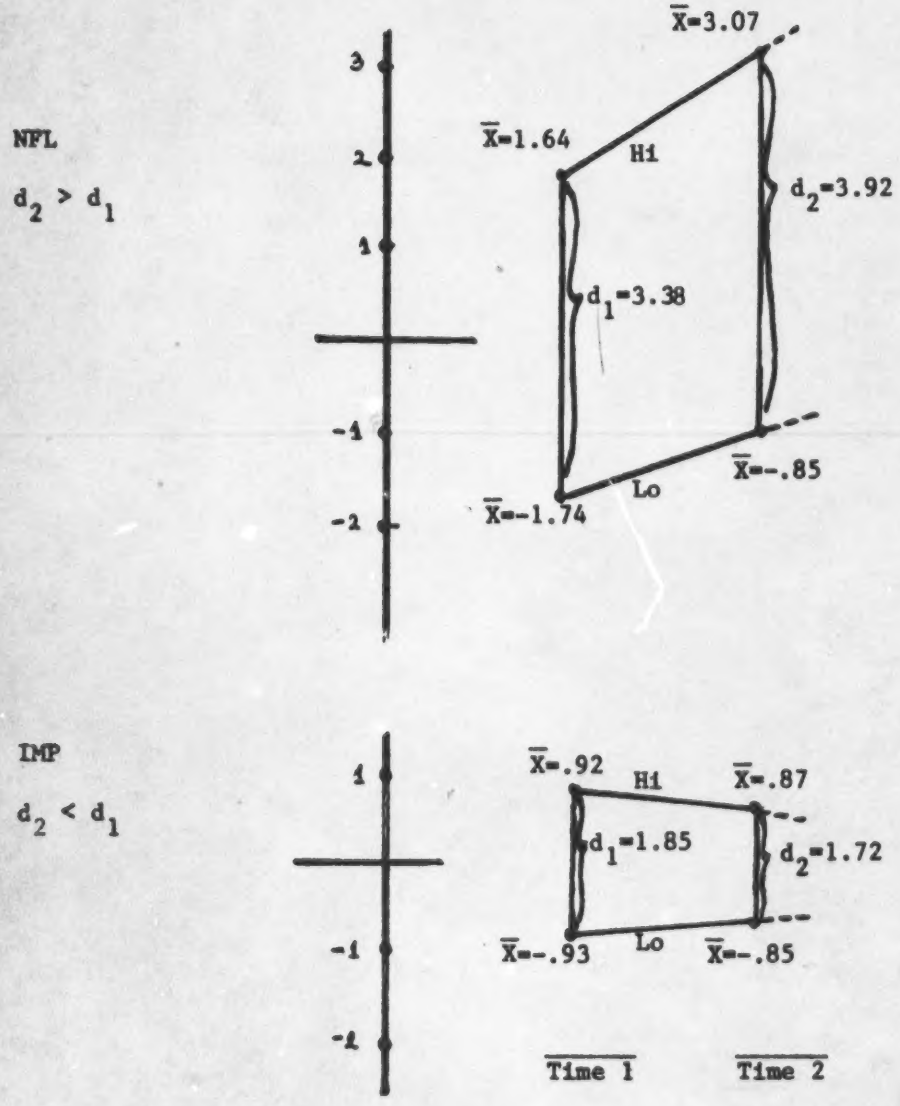
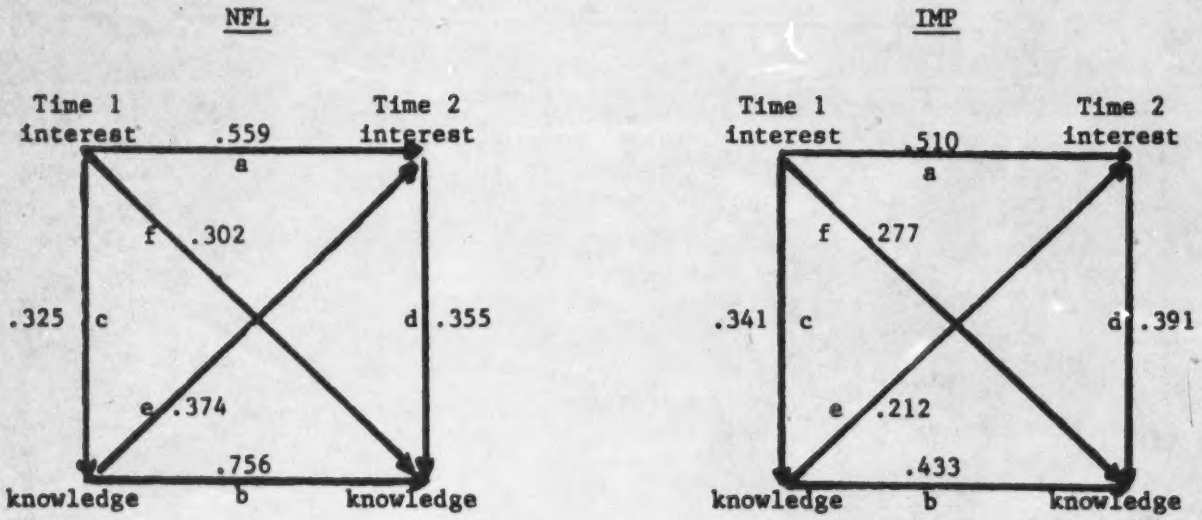


Figure 3

Cross-Lagged Analysis of the Causal Flow



baseline = .226

e, f > .226

e > f

baseline = .173

e, f > .173

e < f

Footnotes

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23. Independent variable indexing entailed the following steps: First, factor analyses were obtained with a quartermax of each group of component variables, in order to arrive at a factor score coefficient for each component. Next, factor scores were created for each respondent on the chosen factor, i.e. multiplying a respondent's standardized score on the component variable by the factor score coefficient for that variable. The final index score was obtained by summing a respondent's standardized scores on n component measures, each multiplied by the appropriate factor score coefficient.

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